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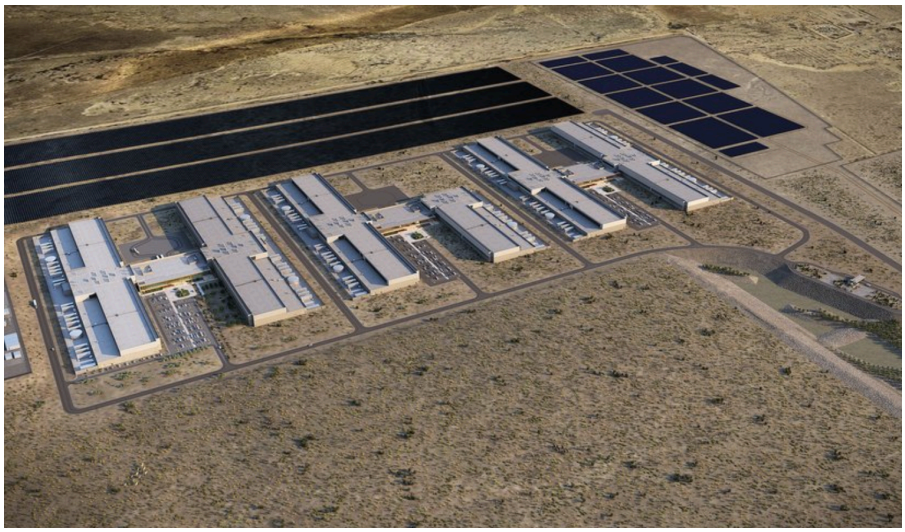
Inside Big Tech's Race to "Climate Safe-Havens"

ALYSE BURNSIDE



Facebook data center Los Lunas, New Mexico. Image courtesy of Facebook.

In David Pogue's book, *How to Prepare for Climate Change*, he suggests readers consider relocating to what he deems "climate safe-havens," or fifteen cities that offer protection from the worst of climate disaster. These so-called safe havens spread across the northeastern part of the United States, from Minnesota to New York, and as far south as Illinois, Indiana, Ohio, Pennsylvania, and the Virginias. Like the "rust belt," "bible belt," or "cornbelt," these post-industrial cities are being redefined by their legacy infrastructure access to freshwater and moderate weather.

The designation of climate safe havens offers a little bit of hope alongside the litany of dire studies highlighting the irreversible effects of climate change. Studies like this one from the National Oceanic and Atmospheric Administration (NOAA)tell us that this past May was the hottest May

recorded on Earth, marking it the 12th consecutive month of record-breaking heat. The National Centers for Environmental Information (NCEI) reports that last year brought 28 weather and climate disaster that cost over a billion dollars in damages—yet another record broken.

In light of these reports, people who might never have imagined themselves living in places like Ann Arbor, Michigan, Cleveland, Ohio, or Duluth, Minnesota, are beginning to flee cities like Miami, Los Angeles, and San Francisco to make new lives in more climate-resilient cities. But it's not just coastal transplants these haven states can expect an influx of; it's also data centers. Data centers store the data integral to our modern, digital lives and without them, we would not be able to support the sometimes life-saving services we've come to rely on. With the rapidly increasing demand for data centers, big tech is also beginning to make the move to climate safe havens.

Climate-Proof Minnesota

Earlier this year, Daily Show reporter Michael Kosta took a trip to Duluth, Minnesota, to imagine a world in which ex-Californians and New Yorkers turned climate refugees adjust to their new Midwestern lives. Located on the north shore of Lake Superior, Duluth has access to both the Atlantic and Pacific Oceans, making it the largest and most accessible port in the Great Lakes region and a major industrial hub for mining and shipping.

The brutally cold winters that once made it unappealing to potential residents now make it one of the safest places to live during climate disaster. In fact, Duluth was deemed a "climate-proof" city by Harvard professor Dr. Jesse Keenan because of its access to freshwater, cold temperatures, and infrastructure, which is stable enough to host an influx of new residents. Of course, in actuality, there is no such thing as a "climate-proof" city. In fact, most of the climate safe havens have already begun to experience record-high

temperatures and significantly more extreme weather events than years before.

Duluth has eagerly welcomed new residents and in the past five years, the population has grown from 86,711 to 87,999. This might seem like insignificant growth, if that rise in population weren't concurrent with Minnesota's rising demand for energy *and* a regional power grid shortage projected to cause significant outages by the summer of 2025. The Midcontinent Independent System Operator (MISO) attributes this surge in part to data center development projects and the retirement of power plants, which has some arguing for a pause on retiring fossil fuel energy sources—-a decision with its own disastrous consequences.

As of right now, Duluth is home to two data centers, but there is burgeoning excitement around the possibility that the city's data center market is about to explode. According to Duluthdatacenter.com, which was created in partnership by Minnesota Power and a business developer called APEX Gets Business, Duluth is the NOW destination for AI. Among the reasons why Duluth is the likeliest candidate for data center development like its abundant land and natural resources, the website insists that "DULUTH IS A COOL CITY."

Minnesota has already attracted significant attention from tech's heaviest hitters: Google, Amazon, and Microsoft. In a small suburb of Minneapolis, Meta draws up plans to build a $800 million data center in Rosemount, Minnesota. In March of this year, Governor Tim Walz announced Meta's plan to build a 715,000-square-foot data center in the city. The data center expects to bring about 100 permanent jobs. While Meta's data center will reportedly be powered entirely by renewable energy, this does not lessen the burden of the already overtaxed power grid, and despite using less water than a traditional data center, Meta's reliance on AI means that the data center will use roughly 300,000-450,000 gallons of water a day.

Meta's decision to locate in Rosemount means that other large corporations will likely flock to the area. This is likely

because of Minnesota's tax breaks for data centers as well as the local government's eagerness to become a tech hub. Rosemount's Mayor, Jeff Weisensel welcomes the development which he says promotes Rosemount's plans of being a tech destination and will bring millions of dollars in local revenue. Governor Tim Walz, too, welcomed Meta's project and expressed his excitement at the probability of more data center development to come.

Michigan's Legislative Conundrum

In November 2023, Governor Gretchen Whitmore signed the Clean Energy and Jobs Act, which introduced new requirements mandating utility companies increase energy efficiency for gas and electric utilities and set an ambitious goal of 100% clean energy production by 2040. In addition to these climate goals and regulations, the bill promised to create 160,000 new jobs, secure 8 billion dollars in federal investments, and lower utility bills for Michigan residents. This landmark legislation, which appointed Michigan the national leader in clean energy policy, was very well received by voters and climate justice advocates alike.

Michigan faces a unique set of challenges, though. Not only can the state expect an influx of new residents in the coming years, but it will also have to find a way to reach clean energy goals while navigating increasing interest from large corporations who are drawn to Michigan not only for its natural resources but for a series of tax incentives introduced by a bill passed by senate this past May. Senate Bill 237, which was introduced by Senator Hertel in hopes of drawing large scale data centers to Michigan by extending a sunset offering tax exemptions on equipment and machinery through 2060.

The fear among climate activists in Michigan is that SB237 will make the state's climate goals unreachable. Indeed, tax breaks have incentivized corporations—in March of this year, talks of a proposed $3 billion data center project in Benton Harbor raised concerns about SB 237 luring corporations like Microsoft, Google, and Amazon to the area. Organizations

like the Michigan Climate Action Network (MiCAN) work with other grassroots climate organizations as well as legislators to develop clean energy bills that would impose some checks on data center development projects in hopes of regulating energy usage:

"I think data centers really hit our radar when we saw the reprisal of a bill that would include these tax breaks for qualifying data centers to come to the state. That really worried us because we know the energy that's required for those data centers. And we had just finally passed clean energy legislation." said Denise Keele, Director of MiCAN.

These conflicting bills reflect a national tug-of-war over our nation's already strapped powergrid. According to a recent report from the North American Electric Reliability Corporation, or NERC, energy demands are higher than they've been at any point in the last decade. This is due, in part to the increased manufacturing of electric vehicles and the AI boom, which requires markedly more energy than traditional data center infrastructure. NERC also projects that as many as 300 million North Americans could face power shortages this year.

It is not surprising then, that while The Clean Energy and Jobs Act introduces some trailblazing climate goals, it also contains what some climate activists have called "loopholes," which would allow energy companies to apply for "good cause exemptions" of up to two years if they were not able to reach the goal of 100% renewable energy by 2060.

"We know energy demand is going up no matter what. People are going to need air conditioning. People are trying to buy electric vehicles. So we were already really concerned because our utilities in Michigan, we're forecasting percentage increases in the energy used," Keele says. "Written into these bills from last fall are a couple off ramps, a release valve of sorts. And some of our target goals for Michigan include 100% clean energy by 2040. However, if we have so much demand, and utilities can't keep using clean energy, then, then we might not be able to use the amount of

renewable resources that we've committed to. [Data center development] might trigger such an offramp, and we do not want to see this energy load return us to coal and gas."

Innovations in AI, cloud computing and cryptomining are largely responsible for this massive demand for power. According to a report published by the Electric Power Research Institute, the global data center power demand will more than double by 2026 due to AI's significantly higher demand for computing power. To understand exactly how much more power AI requires, consider that an AI-powered internet search requires 10x more power, meaning that this article alone has used roughly 8,5400 terawatts of power.

The Race for the Future Begins in Buffalo, New York

From her podium at the State Capitol in Albany, Governor Kathy Hochul began her 2024 State of the State address with her fervent desire to make New York a global AI leader: "I propose nothing short of making the state of New York the global leader in AI research and development, the leader for the nation, the leader for the world." AI, she explained, was the "race of the future," and in order to win the race of the future, the state of New York will need to plan for, and build some expensive infrastructure.

She went on to unveil plans to dedicate $400 million dollars to the "Empire AI Consortium," which includes Cornell University, SUNY, CUNY, NYU, Columbia, Rensselaer Polytechnic Institute, and the Flatiron Institute. Shortly after the address, the University of Buffalo announced that it would host the consortium. The university was chosen because of its access to water which would be crucial in providing the water and power for the consortium's massive supercomputer which would need to be built to conduct AI research.

With its access to Lake Erie and increasingly moderate year-round temperatures, Buffalo is an attractive city for climate refugees. Were it to become the hub of global AI research and development, though, it might look different. After all, it's

impossible to know exactly how far a city's resiliency can be tested before it bows under the weight of impending climate disaster. What Hochul failed to mention in her State of the State Address was that New York state lags significantly in achieving the climate goals outlined in the 2019 Climate Leadership and Community Protection Act, which says that 70% of all energy must be renewable by 2030. The Public Service Commission released a report this past July which confirmed this target goal will not be met before 2033. Hochul has said this is a good time to rethink the climate bill and ease up on some of those ambitious goals.

As more and more safe-haven cities will be eager to compete in AI's "race to the future" it's important to take a look at what these climate havens might expect from the substantial demand for data center development in the next decade. Virginia is a great example, as it has been inundated with unchecked data center development for the past decade. Residents have felt the shock of having their communities overtaken by data centers, and are experiencing the severe environmental impacts, which some locals say have harmed local ecology, strained water sources, and even impacted the mental health of residents.

Now home to over 300 data centers, or 70% of the world's data centers, Virginia has earned the title, "Data Center Capitol of the World." Not an accomplishment all locals are happy about. Many residents are concerned with the rapid and increasing development happening in their backyards, which threatens to harm local ecology, strain power and water resources, and pose catastrophic environmental risks .

Ann Bennett, an executive committee representative of the Virginia chapter of the Sierra Club, explained why Virginia attracts data centers. "*[Virginia]* has been a place where data center operators have wanted to do business because there's cheap power, because of the fiber, because the regulatory environment is favorable to their development, and also they were given financial incentives to come here at the state level."

Municipalities are pining for local revenue that they receive when these data centers are sited. Because they do not produce very many jobs, they do not add to the additional cost of things like schools. “The flip side of that of course is that they don’t build community. It’s industrial development literally in the foothills of our nation’s capital,” Bennett said.

This promise of economic stimulation is familiar in data center development proposals and attractive to local economies, but the reality of it is a bit hazy. Mega corporations like Amazon and Google promise an influx of jobs and tax revenues. However, the average data center employs between 10 and 30 employees. Construction projects often bring jobs, but contracts are not always made with local companies. According to its website, AWS supports thousands of jobs and generates an estimated $65.15 billion for local U.S. businesses. Construction, on-site job opportunities, and infrastructure revenue aside, it suggests a kind of trickle-down economic impact: “Local spending supports jobs such as data center technicians, utility tradespersons, building maintenance, equipment repair, and security. Those jobs help generate induced effects that may go into local restaurants and shops, or pay the neighborhood babysitter.”

These “induced effects” might feel a bit abstract for locals who worry that large corporations are eating up their already dwindling power and water supplies, though. “When you think about multiple campuses in the vicinity of, let’s say the Rappahannock River. it’s a fairly small but important river, and it can’t sustain infinite outtakes,” Bennett says.

The People vs. Big Tech

The problem with data centers is that they are inherently bad for the environment, yet it is impossible to imagine our lives without them. In a statement on data centers released by Michigan’s chapter of the Sierra Club, the many hazards data centers pose: “[the energy used by data centers]is predominantly sourced from non-renewable fossil fuels and contributes to greenhouse gas emissions, exacerbating

climate change. Furthermore, the cooling systems required to maintain optimal operating temperatures in data centers often use large amounts of water, putting a strain on local water resources. Additionally, the constant cooling of servers generates heat, which can elevate local air and water temperatures and harm surrounding vegetation and wildlife habitats." Companies may tout their dedication to sustainability, pledge to reduce carbon emissions, and commit to using renewable energy. Data center developers can offer innovations aimed at reducing their carbon footprints, land usage, use of renewable or recycled building materials, and invest in local communities, but it is all for nothing if we deplete the earth of its resources.

Amid the excitement of the AI boom, and the clear economic incentives data centers offer local governments, it is left to environmentalist organizations like the Sierra Club and MiCan to ensure that their communities are not overrun with data centers, or at the very least, to demand transparency and more robust regulation on data center development. In the past year local activists and environmentalists halted construction of a 1.3 billion dollar data center in Chesterton, Indiana, Chilean environmental activists halted Google's plans to build a data center in Santiago, last year Dutch officials placed a moratorium on new data center development in Amsterdam, and in Virginia, the activist group Citizens for Fauquier County filed a lawsuit against a local zoning board and successfully stopped construction of an Amazon data center in Warrenton, Virginia.

These activists are engaged in a pursuit beyond NIMBYism, instead for basic acknowledgement that data center development impacts the daily life of residents, has the potential to hinder happiness, deplete precious resources, and negatively impact wildlife. They want a sense of agency and a seat at the table where big money raises its mammoth fists, to see the sacrifices of their landscapes reflected in their economies and workforces. In short, data center activists

want to protect the communities that have, until this point, been their safe havens.

Alyse Burnside is a writer living in Brooklyn. They're working on a collection of essays about work, attachment, and horses. Their work has appeared in The Paris Review, The Atlantic, The Believer, The Nation, DIAGRAM, and elsewhere.